

REPORT ON METHODS FOR MAPLE PRODUCTS

By C. O. WILLITS (Eastern Utilization Research Branch,* Philadelphia, Pa.), *Associate Referee*

The program of work on methods for the analysis of maple products (sirup and sugar) by the Association has been held in abeyance for the past several years. Because of the all-time high in the prices of maple products, with the corresponding large differential in price between cane sugar and maple sugar, attention has again been focused on the need for a satisfactory method of analysis which would serve for detection of adulteration.

The methods for the analysis of maple products given in *Official Methods of Analysis*, 7th Ed., procedures 29.107-29.129, are completely adequate for obtaining the different chemical and physical measurements of these products.

Unfortunately, these methods do not give a measure of adulteration; at best they can give only presumptive evidence. This was well demonstrated by a collaborative study conducted recently in Canada in which it was shown that relatively large amounts of adulterants could be added without positive identification.

This situation exists because the detection of adulteration based upon the use of these methods presupposes that the addition of an adulterant will sufficiently alter the analytical values from those for pure maple to disclose adulteration. However, the chemical and physical measurement values which now serve as criteria of purity are not constants, but vary between rather wide limits. This range is so large that, even though the maple product being examined has been adulterated, the resultant analytical value will usually be within this range.

The method which can be used to disclose adulteration must be one that will either (a) detect something that is peculiar to the adulterant (which is usually cane or brown sugar); or (b) measure some chemical or physical property of pure maple that is nearly constant.

It is recommended† that work be continued on development of methods for the detection of adulteration of maple products with emphasis on (b), above.

* One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, United States Department of Agriculture.

† For report of Subcommittee D and action of the Association, see *This Journal*, 37, 80 (1954).